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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,264	09/30/2003	Peter John Biles	Biles	4020
47396	7590	07/13/2006	4-2-4-8-8/075903-24	
HITT GAINES, PC				
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PO BOX 832570				
RICHARDSON, TX 75083				
			EXAMINER	
			CHAUDHRY, SAEED T	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/675,264	<b>Applicant(s)</b> BILES ET AL.	
	<b>Examiner</b> Saeed T. Chaudhry	<b>Art Unit</b> 1746	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6,7 and 17-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6,7 and 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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## **DETAILED ACTION**

Applicant's amendments and remarks filed May 24, 2006 have been acknowledged by the examiner and entered. Claims 1-5, 8-16 have been canceled and claims 6, 7 and 17-23 are pending in this application for consideration.

### **New ground of rejection Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (c) he has abandoned the invention.
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
- (f) he did not himself invent the subject matter sought to be patented.
- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

**Claims 7 and 17-23 are rejected under 35 U.S.C. § 102(b) as being anticipated by Brunemeier et al.**

Brunemeier et al (5,869,401) disclose a method of removing a polymer deposition above a surface of a substrate by process the substrate with conventional plasma processing steps in a plasma chamber and thereafter, purging said the chamber with a flash source gas to remove polymer from said surface of the substrate while said substrate is disposed on an electrostatic

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chuck in said plasma chamber, said purging being performed while said substrate is dechucked from said electrostatic chuck and said process plasma is extinguished and thereafter striking a plasma with said flash source gas in said plasma processing chamber, thereby forming oxygen species above said substrate to permit said oxygen species in said plasma to interact with said polymer deposition. Wherein, the conventional plasma processing steps are etching aluminum metallization layer of the substrate with an etchant gas contains chlorine and/or bromine such as  $\text{Cl}_2$ ,  $\text{BCl}_3$  and  $\text{HBr}$  as well as other suitable etchants known to those skilled (see claims and col. 5, lines 1-7).

It is also found that, in some cases, exposure to oxygen radicals causes the polymers that are formed on substrate surface to be more efficiently removed (see col. 7, lines 60-63).

FIG. 4 illustrates, in one example, exemplar parameters of the inventive technique wherein both purge step 203 and plasma-enhanced flash step 204 of FIG. 3 are performed in a TCP.TM. 9400 plasma processing chamber. The substrate remains on the chuck after a conventional plasma etching step employing  $\text{Cl}_2$  and  $\text{BCl}_3$  was performed on the metal layer of the substrate. During the purge step, a high flow purge is performed with 500 standard cubic centimeter per minute (sccm) of purge gas through the chamber. The purge gas includes 200 sccm of  $\text{N}_2$ , 200 sccm of He, and 100 sccm of  $\text{O}_2$ . However, the respective ratio of the components of the purge gas is not critical, nor is its flow. It is preferred that some non-corrosive gas (e.g.,  $\text{N}_2$ , He, Ar,  $\text{O}_2$ , or any other relatively non-reactive gas) be flowed for a sufficient time to adequately flush the conduit lines and/or the chamber. In one embodiment five seconds works well (see col. 8, lines 46-61).

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Further, although oxygen is discussed herein as the flash source gas to facilitate ease of understanding, it should be understood that the flash source gas may include any oxidizing agent, e.g., oxygen, ozone, hydrogen peroxide, and other oxidizing agents known to those skilled from which oxygen species may be formed (see col. 10, lines 27-33).

Brunemeier et al discloses all the limitations as claimed herein. Therefore, the claimed process is anticipated by Brunemeier et al.

Applicant's arguments with respect to claims 6, 7 and 17-23 have been considered but are deemed to be moot in view of the new grounds of rejection.

Applicant's amendment necessitated the new grounds of rejection. Accordingly, THIS ACTION IS MADE FINAL. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saeed T. Chaudhry whose telephone number is (571) 272-1298. The examiner can normally be reached on Monday-Friday from 9:30 A.M. to 4:00 P.M.*

*If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Barr, can be reached on (571)-272-1414. The fax phone number for non-final is (703)-872-9306.*

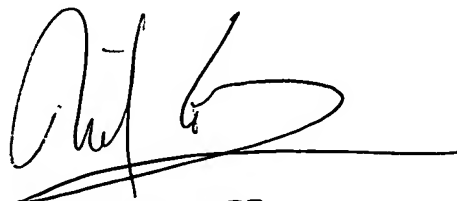
*When filing a FAX in Gp 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are for entry into the file of the application. This will expedite processing of your papers.*

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*Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1700.*

**Saeed T. Chaudhry**

*Patent Examiner*

A handwritten signature in black ink, appearing to read 'Michael Barr', with a long horizontal line extending from the end of the signature.

**MICHAEL BARR**  
**SUPERVISORY PATENT EXAMINER**